ROAD Process

(Risks and Options Assessment for Decision-making)

The Risks and Options Assessment for Decision-Making (ROAD) process enables decision-makers to understand and manage complex risks across connected food-energy-environment-water systems

1.

2.

3.

Define Scope

&

Causal model

Evaluate risks and options

+

Document Decisions

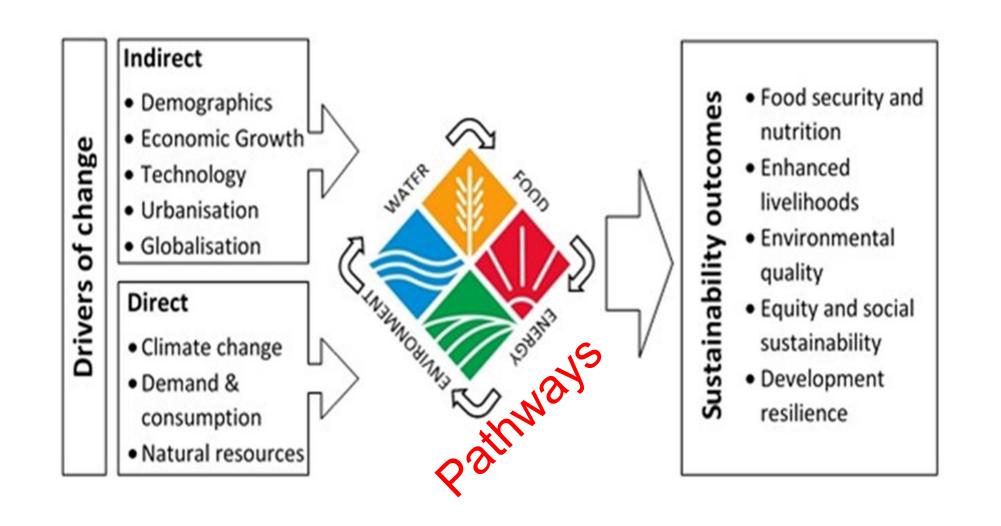
Implement and evaluate decisions

Document

results

FE2W Network

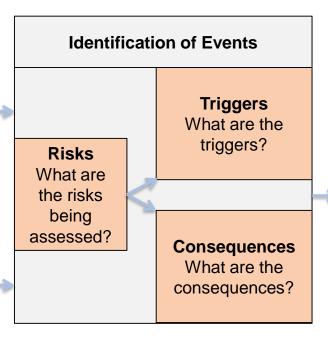
Drivers and Outcomes



1. Define Scope of Decision-Making & Assessment

Who are the decisionmakers? Who are the stake-holders? What are their objectives?

Define baselines & thresholds of food, energy, environment. water



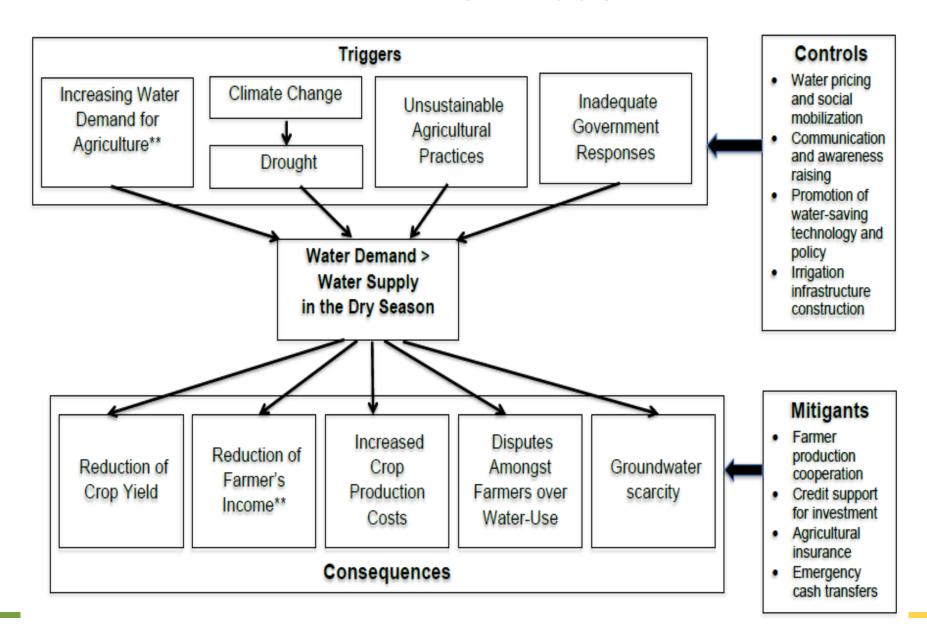
Define resource available & external factors

Controls What are the options to control risks? **Mitigants** What are the options to mitigate consequences?

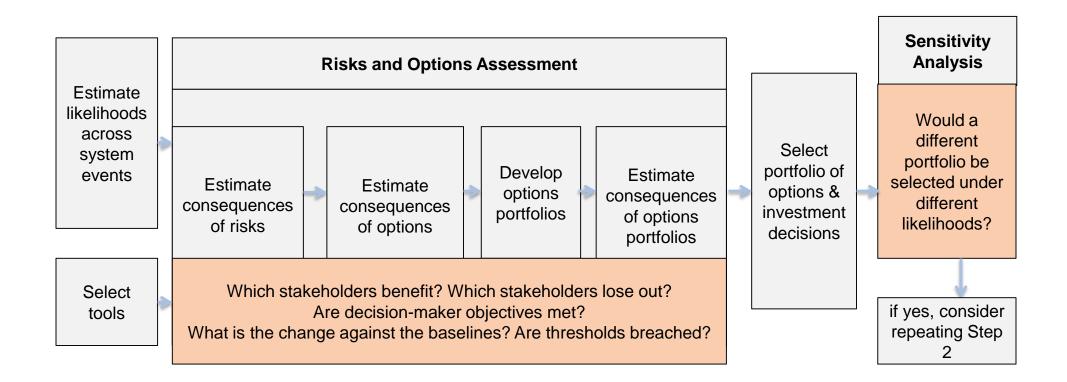
Options Identification

Define linkages across system & directions of causation

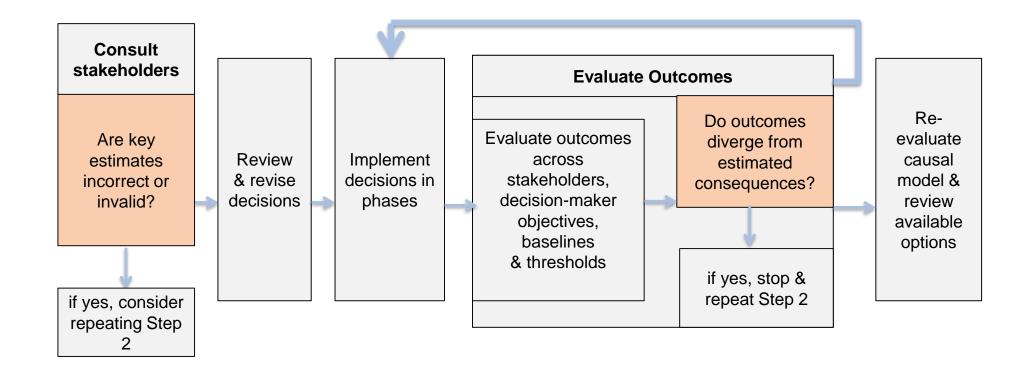
Risk Model



2. Assess Risks & Options



3. Implement & Evaluate Decisions



Scoring according to their impacts on the objectives

GOALS SCORING

INDIVISIBLE

The strongest form of positive interaction in which one objective is inextricably linked to the achievement of another. Reduction of air pollution (12.4) is indivisible from improved health and reducing non-communicable diseases

Outdoor and indoor air pollution

well as respiratory and cardio-

increases in perinatal deaths.

In 2012, ambient (outdoor) air

pollution was responsible for

3 million deaths, representing

pollution is estimated to cause

about 25% of the lung cancer

deaths. Major urban centers in

countries are the most exposed

to this burden, (WHO, 2016).

communities.

5.4% of the total deaths.

Worldwide, ambient air

low and middle-income

is responsible for 7 million

vascular disease but also

deaths annually, as

REINFORCING

One objective directly creates conditions that lead to the achievement of another objective. Increasing economic benefits from sustainable marine resources use (14.7) reinforces the creation of decent jobs and small enterprise in e.g. tourism (8.5 and 8.9)

ENABLING

The pursuit of one objective enables the achievement of another objective. Developing infrastructure for transport (9.1) enables participation of women in the work force and in political life (5.5)

CONSISTENT

A neutral relationship where one objective does not significantly interact with another or where interaction are deemed to be neither positive nor negative. By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including each other marine debris and nutrient pollution (14.1) is consistent with target 3.5 Strengthen the prevention and treatment of substance abuse, including narcotic drug abuse and harmful use of alcohol.

CONSTRAINING

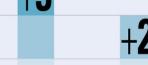
A mild form of negative interaction when the pursuit of one objective sets a condition or a constraint on the achievement of another. Conserving coastal areas (14.5) and development of safe affordable housing and basic services (11.1) may constrain

COUNTERACTING

The pursuit of one objective counteracts another objective. Ensuring access to safe, nutritious and sufficient food can counteract sustainable water withdrawals (6.4) and reduction of chemicals releases (12.4)

CANCELLING

The most negative interaction is where progress in one goal makes it impossible to reach another goal and possibly leads to a deteriorating state of the second. A choice has to be made between the two. Developing infrastructure (9.1) could be cancelling the reduction of degradation of natural habitats in terrestrial ecosystems (15.1)



Sustainable and diversified Affordable public transport strategies for using the promotes social inclusion. more equal access to different marine resource base open up opportunities for small parts of the city, and enabling enterprises in fisheries or employment for marginalized other harvesting and groups. In many places, associated value-addition women do not have access to a car and depend on public activities, as well as transport, walking or bicycling activities related to tourism. Many SIDS and LDCs that to get around, to work places are rich in these resources and to social or political also have poor, vulnerable activities (NCE, 2016; GSDR, and marginalized coastal



There is no significant interaction between the two targets.

Establishing protection areas in

the coastal zone and expanding

urbanization, infrastructure or

planning tools are readily

available to mitigate spatial

transport risks spatial competition especially in densely populated Increasing productivity in areas. Integrated coastal zone management and marine spatial to improve food security. entail increased and/or increased use of agrochemical inputs.

In underdeveloped regions, developing roads, dams, and power grids might be a high priority, although it will cause some unavoidable fragmentation of habitats and compromising the integrity of the natural ecosystem. leading to risks to biodiversity as well as social risks.

agriculture is a necessary (but not sufficient) condition In many places, this might better irrigation as well as

Going beyond synergies and trade-offs: a sevenpoint scale

- Negative interactions: cancelling (-3), counteracting (-2), constraining (-1)
- Neutral interaction: consistent
- Positive interactions: enabling (+1), reinforcing (+2) and indivisible (+3)

Nilsson, M., D. Griggs and M. Visbeck, 2016. Map the interactions between Sustainable Development Goals. Nature, 534:320-322.

Interaction	Name	Explanation	Example
+3	Indivisible	Inextricably linked to the achievement of another goal.	Ending all forms of discrimination against women and girls is indivisible from ensuring women's full and effective participation and equal opportunities for leadership.
+2	Reinforcing	Aids the achievement of another goal.	Providing access to electricity reinforces water-pumping and irrigation systems. Strengthening the capacity to adapt to climate-related hazards reduces losses caused by disasters.
+1	Enabling	Creates conditions that further another goal.	Providing electricity access in rural homes enables education, because it makes it possible to do homework at night with electric lighting.
0	Consistent	No significant positive or negative interactions.	Ensuring education for all does not interact significantly with infrastructure development or conservation of ocean ecosystems.

Interaction	Name	Explanation	Example
-1	Constraining	Limits options on another goal.	Improved water efficiency can constrain agricultural irrigation. Reducing climate change can constrain the options for energy access.
-2	Counteracting	Clashes with another goal.	Boosting consumption for growth can counteract waste reduction and climate mitigation.
– 3	Cancelling	Makes it impossible to reach another goal.	Fully ensuring public transparency and democratic accountability cannot be combined with national-security goals. Full protection of natural reserves excludes public access for recreation.

	Initial Score	Adjustment Measure	Final Score
Food Security			
Energy Security			
Water Security			
Environmental Protection			